

WHAT IS CLAIMED IS:

1. A connecting apparatus for connecting a flat cable to a connecting terminal, in which the connecting apparatus connects a flat cable having a plurality of flat conductors arranged in parallel and having surfaces covered with an insulating material to a connecting terminal by piercing a plurality of crimp pieces, formed integrally with a substrate of the connecting terminal, into a desired conductor of the flat cable, and by inwardly bending leading ends of the crimp pieces penetrating the flat cable to hold the desired conductor therebetween, comprising:

a receptacle on which the flat cable held at a predetermined position is placed, the receptacle having a pair of receiving grooves for receiving the crimp pieces, and a bending recess for bending the leading ends of the crimp pieces;

an urging member having an urging tool, disposed opposite the receptacle with the flat cable interposed therebetween, for urging the substrate of the connecting terminal, and a guide member for guiding movements of the urging tool;

first driving means having elevating means for moving the receptacle up and down, and a moving means for moving the receptacle to selectively place the receiving groove or the bending recess of the receptacle to opposite the connecting terminal;

second driving means for urging the urging tool toward the substrate; and  
control means for controlling the operation of the connecting apparatus.

2. The connecting apparatus according to claim 1, wherein the receptacle has a partition formed with the pair of receiving grooves, and the partition comprises a pressurizing incline plane at an entrance of each of the receiving grooves for forming cut ends in the desired conductor by means of the crimp pieces pierced into the desired conductor, each cut end extending along an inner face of a corresponding one crimp piece and in contact with the inner face with a constant contact pressure over substantially the entire length of the cut end.

3. The connecting apparatus according to claim 1, wherein the urging member comprises a first sensor for detecting a load acting on the crimp pieces when the substrate is urged by the urging tool to pierce the crimp pieces into the flat cable, and a second sensor for detecting a displacement amount of the crimp pieces with a movement of the urging tool, wherein information detected by both the sensors is output to the control means.

second sensor, and determines a connecting state of the crimp pieces to the conductor when the flat cable is connected to the connecting terminal.

5. The connecting apparatus according to claim 1, wherein the receptacle comprises a top dead center position adjusting mechanism for adjusting a top dead center position of the receptacle.

6. The connecting apparatus according to claim 1, wherein the urging member comprises a bottom dead center position adjusting mechanism for adjusting a bottom dead center position of the urging tool.